

DEFERRED MAINTENANCE: The Unknown Cost

By Dave Gross / Gross Inspection Services / Brookfield

Homes are great, people remodel interiors with updates and trends more often than the exterior of the home. The roofing, siding and insulation keep us warm, safe and dry. These layers protect most families' largest investment. Each season the home's exterior cladding, (roofing, siding, gutters and landscaping) are put through stresses from temperature changes, wind and UV exposure. These battles of hot vs cold, dry to wet causes the various products on the exterior of your house to expand or contract at different rates. The thermal dynamic of these varying products and the way they interact with each other creates failure or weak points in the cladding system.

For the past 25 years many major repairs and improvements on homes are due to deferred maintenance.

What does deferred maintenance look like?

It can be as simple as peeling paint, an unserviced air filter, clogged gutters, cracked caulking on your siding or a piece of loose or missing flashing. Mechanical systems are noticed when they fail, however many parts of the home do not let you know when they are not performing.

The home's exterior is often overlooked or forgotten about until there are major issues, unlike a furnace or water heater which are very noticeable when they stop performing. When siding, trim, caulking and flashings don't perform, the small amount of water starts penetrating through the failures. The following is a current project that Gross Inspection Services is consulting on and helping guide the client with the best practice to avoid a large expense in 20 years.

Here's a brief glimpse of some hidden costs of the deferred maintenance on the exterior of the home.

Clients bought a newly built spec home in 2001. No home inspection was completed when they took possession. Busy lives led to overlooking their home's exterior maintenance needs. Many items on all houses need to be maintained and corrected on the exterior and interior per year.

Bigger issues come to light with cold weather and wind. This last December during the deep freeze and severe wind, they awoke to no hot water on the second floor. They contacted Gross Inspection Services for advice. I had them turn off the water to avoid a leak from a potential pipe burst. I arrived and put my Thermal imaging camera to work. This camera allowed me



Hidden water damage behind siding and door edges for last 22 yrs.



Improperly installed ledger flashing for a deck

to quickly locate the potential frozen pipes. This was in the middle of the basement, not on an outside wall or other usual spots for a frozen pipe. The cool spot in the ceiling was opened up and bingo, right below the hot and cold water lines, the temperature was at 22°F. Hair dryers are one of the safer ways to thaw frozen pipes. I never use open flames or torches for this. We had buckets and trash cans on hand, as once the pipe thawed, there was water leaking. The pipes were repaired.

An unusual amount of cold air was blowing through this joist space. I then scanned to the exterior of the house and found another thermal anomaly. The ceiling was cut open, a snow drift had accumulated in the basement ceiling above the drywall. The opening in the ceiling revealed a hole in the sheathing and rotted flooring under the back door to the deck. This hole had allowed the wind and snow to blow into the house. The deck flashing at the house to the ledger board was not properly tied into the house wrap and siding. The main door had no flashing and gaps under it. This directed the water behind the ledger board, which rotted out the sheathing of the house. The leak was further enhanced by water being driven or sucked into the house.

The stack effect increases during certain weather conditions. Pressure and temperature variances from storms cause high and low pressure areas on the building exteriors. In conjunction with the natural stack effect. The stack effect is the warm air rising through the house into the attic, while cooler air sinks or is drawn into the house at the exterior claddings, the weak points.

Clients then wanted to correct the rest of the exterior properly. The exterior inspection led to many discoveries. The roof was original and had failed at the peak. Roof was replaced and gutters updated. What will all this actually cost? Great question, there was a range for the roofing and gutter quotes. The final cost was \$35,000.00. All windows and doors are being replaced for \$70,000.00. New LP siding and trim \$60,000.00. Concrete replacement where it settled at the patio, driveway and stairs \$21,000.00. Deck removal and install to meet code \$30,000.00

Yearly Maintenance

Having a yearly maintenance inspection combined with a repair service should have increased the service life of all the different systems.



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We've been to this rodeo several times in the past so we've got a pretty good sample size for working with home inspectors. Dave Gross is simply the best. Extremely thorough, explained and showed things as we went through the house, and had a lot of expertise to make recommendations on how to handle things that were flagged. He came highly recommended and lived up to everything. Not something you can say too often these days. If you're buying a home, Dave will give you peace of mind in knowing what all the "warts" are as well as the things that were done well, and what you can do to make improvements. Can't say enough good things about him! - Drew Z. FEB 23

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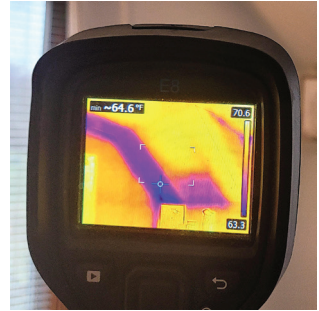





Damage from water and ice penetration since added addition



Inside basement upward view of failed sheathing and flooring underneath door



Thermal imaging reveals lack of insulation in cathedral ceiling

An upgrade for the inspection is to use thermal imaging. A trained thermographer inspecting a house after a rainstorm will help identify the areas of concerns. These areas would be where attention should be placed for repairs. Wet materials have different heat capacities and show up differently in the infrared spectrum. Having a temperature difference from inside to outside of 9°F is recommended for the best results while completing a scan.

A maintenance inspection can be customized to the clients concerns, but should include the exterior of the house and attic at minimum. The following items are inspected; roofing, flashings, gutters, fascia, soffit, siding, trim, windows, patios, porches, decks and grading. In the attic check sheathing, structure, mechanical, ventilation and insulation.

All homes have monthly and yearly maintenance service needs. Water intrusion is the largest cause of the damage. The stresses of the seasons cause the materials to fail over time. Most caulking are a maintenance

item needing replacement every 5 to 7 years. However, best practice installation of some products will last much longer.

In Conclusion

Deferred maintenance is a practice that every property owner or building manager should adopt reluctantly and as a last resort to meet challenges when it comes to resource availability or budget constraints. The benefits of investing in regular maintenance greatly outweigh the cost of deferred action which can prove devastating to the building. Ultimately, a wise investment in maintenance translates as an investment in the longevity of the property.

If in need of any services from maintenance inspections, radon test, sewer scope, thermal scan or project consultation. Give Gross Inspection Services a call at 262-395-3373 Visit us at www.grossinspec.com or follow on Facebook <https://www.facebook.com/DavidGrossInspec>